REMARKS

Claims 1-14 are pending in this application. Claims 5-14 have been withdrawn by the Examiner. Claims 12-14 are cancelled and new claims 15-27 added herein.

Claims 15-16 are added to recite features recited in claim 4, as dependent features from independent claim 2 and independent claim 3.

Claims 17-27 are added to recite the invention in a somewhat different manner.

Claim 1 stands rejected under 35 U.S.C. §103(a) as obvious over JP 11293365, JP 51045528, JP 11293431, or JP 2000169918. Claims 1 and 3 stand further rejected under 35 U.S.C. §103(a) as obvious over JP 05051675. Claims 1-3 stand rejected under 35 U.S.C. §103(a) as obvious over JP 57070244 or DD 290501. Claim 4 stands rejected under 35 U.S.C. §103(a) as obvious over the references applied in support of the rejection of claims 1-3 and in further view of JP 61113740 and JP 02204919. The rejections are respectfully traversed.

Each of the rejected independent claims 1-3 requires high-purity copper having a total unavoidable impurity content of not more than 1 ppm by mass and 1-5% by mass of silver having a purity of not less than 99.99% by mass added thereto. Independent claim 2 further requires further adding 0.01 to 0.5% by mass of magnesium having a purity of not less than 99.9% by mass. Claim 3 further requires adding 0.01 to 0.3% by mass of indium having a purity of not less than 99.99% by mass.

It is perhaps first worthwhile noting that the present invention provides copper alloy wire having excellent tensile strength, wire drawability, and bending properties. By adding the recited mass percent of Ag, Mg and/or In, excellent tensile strength and bending properties are obtained. Further, by combining one or more of the

aforementioned mass percents of elements to high-purity copper having a total unavoidable impurity content of not more than 1 mass ppm, and with the Ag having a purity content of not less than 99.99 mass percent, the Mg having a purity content of not less than 99.9 mass percent and the In having a purity content of not less than 99.99 mass percent, excellent wire drawability, particularly advantageous in ultrafine copper alloy wire having a diameter of not more than 0.08 mm, is obtained. Hence, the effect resulting from the combination of copper with the recited unavoidable impurity content and one or more of the other metallic elements with the recited purity is, *inter alia*, improved wire drawability of copper alloy wire having a diameter of not more than 0.08 mm.

It should be noted that, in general, the total unavoidable impurity content of copper wire is around 300 ppm. Even at the minimum level, the total unavoidable impurity content of conventional copper wire is normally in the 10-30 ppm range. The conventionally accepted view, prior to the present invention, was that it is unnecessary to decrease the total unavoidable impurity content to not more than 10 ppm. Hence, contrary to the accepted thinking within the art, the inventors have discovered that the total unavoidable impurity content of copper, and the purity of the metal element(s) added to the copper, are important factors in fabricating copper alloy wire having a diameter of not more than 0.8 mm.

The applied '365, '528, '431, '918, '675, '244, '501, '740 and '919 references fail to disclose a purity of copper used as the mother on base material or the purity of metal elements, such as Ag, Mg and In, combined therewith.

It is acknowledged that the '365 and '918 references describe an unavoidable

impurity contained in the copper alloy wire is a very small quantity of naturally contained impurity. However, these references lack any disclosure that the unavoidable impurity content of the copper is not more than 1 ppm by mass. Also lacking is any disclosure that silver, magnesium, and/or indium, with the recited purities and percentages by mass, are added to or combined with such high purity copper. In fact, the range of impurity content shown in the '365 and '918 references is within the conventional range.

All of the applied references fail to even recognize that the total impurity content will affect the wire drawability of a copper alloy wire.

Regarding the '740 reference, the Examiner asserts that the abstract references 5N purity copper. It should be understood that what is being described, in the '740 abstract, are the attributes of the copper alloy wire after other metal elements have been added or combined with the copper. On the other hand, the present invention explicitly limits the purity of the copper and metal element(s) added thereto or combined therewith. Hence, the present invention, as claimed, defines purities prior to these elements being combined to form the copper alloy wire.

The '740 reference lacks any discussion whatsoever of the mass or purities prior to the combination of the elements. Furthermore, the purity of the metal elements is not disclosed at all. Further still, the '740 reference fails to identify an impurity content by mass of the copper or a purity content in terms of percent by mass for the other metal elements identified. Additionally, the percent by mass of the other metal elements are, as understood, also outside the ranges specified for silver, magnesium and indium in the present claims.

The present invention, claims a copper alloy wire formed by combining copper

with one or more other metals. The claims define limitations on the unavoidable impurity (i.e., naturally contained impurity) of the copper prior to the combination. The claims also define limitations on the percent by mass purity of the other metal or metals combined with the copper. The resulting copper alloy wire has improved drawability over copper alloy wires as described in the applied prior art references.

Accordingly, it is respectfully requested that the rejection of claims 1-4 be reconsidered and withdrawn. Claims 15-16 which depend from independent claims 2 and 3 are also allowable for, *inter alia*, the reasons set forth above.

New claims 17-27 recite the invention in a somewhat different manner. Independent claim 17 requires high-purity copper having a total unavoidable impurity content of not more than 1.0 ppm by mass and at least one of silver, magnesium, or indium having specified purities by mass, prior to the high purity copper and the at least one of the recited metals being combined.

Claim 25 requires a plurality of other copper wires which, along with the copper alloy wire recited in claim 17, form a stranded copper alloy wire conductor. Claim 26 requires that the stranded copper alloy wire conductor of claim 25 be an inner or outer conductor of an extrafine coaxial cable. Claim 27 requires that the claim 25 stranded copper alloy wire conductor be an inner conductor of the coaxial cable and that a plurality of other copper wire conductors form outer conductors of the cable.

For reasons which are believed to be clear from the above discussion, each of claims 17-27 are believed to patentably distinguish over the applied prior art.

In view of the foregoing, it is respectfully submitted that the application is in condition for allowance and an early indication of the same is courteously solicited. The Examiner is

respectfully requested to contact the undersigned by telephone at the below listed local telephone number, in order to expedite resolution of any remaining issues and further to expedite passage of the application to issue, if any further comments, questions or suggestions arise in connection with the application.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 01-2135 and please credit any excess fees to such deposit account.

Respectfully Submitted,

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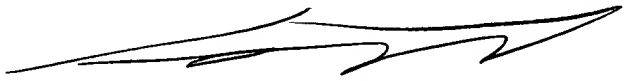

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